**Model Development Phase Template**

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| Date | 15 July 2024 |
| Team ID | 740685 |
| Project Title | **SDSS galaxy classification using Machine Learning** |
| Maximum Marks | 6 Marks |

**Model Selection Report**

In the forthcoming Model Selection Report, various models will be outlined, detailing their descriptions, hyperparameters, and performance metrics, including Accuracy or F1 Score. This comprehensive report will provide insights into the chosen models and their effectiveness.

**Model Selection Report:**

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| --- | --- | --- | --- |
| **Model** | **Description** | **Hyperparameters** | **Performance Metric (e.g., Accuracy, F1 Score)** |
| Decision ree | A decision tree is an effective machine learning model for SDSS galaxy classification due to its transparency and interpretability.This model can easily handle both numerical and categorical data, making it useful for distinguishing between different types of galaxies. | Hyperparameters used | Accuracy value:0.77 |
| Random Forest | Random forest enhances SDSS galaxy classification by combining multiple decision trees for improved accuracy and robustness, leveraging ensemble learning to reliably distinguish between different galaxy types. | Hyperparameters used | Accuracy value:1.00 |
| Logistic Regression | Logistics regression provides a simple,interpretable model for SDSS galaxy classification,effectively distinguishing galaxy types by modeling the probability of class membership using a linear combination of input features | Hyperparameters used | Accuracy value:0.77 |